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L14: Entry 1 of 18

File: USPT

May 27, 2003

DOCUMENT-IDENTIFIER: US 6569231 B1

TITLE: Pigment preparations, a process for preparing pigment preparations and use thereof

Brief Summary Text (13):

The polymer may be a copolymer, block copolymer, polyampholyte or intermeshed polymer. The molecular weight Mw of the polymer may be less than 100,000 g/mol, preferably less than 10,000 g/mol. Copolymers based on (meth)acrylic acid with basic (meth)acrylates, such as dimethylaminoethyl (meth)acrylate and dimethylaminopropyl (meth)acrylamide and its quaternary ammonium compounds and also other alkyl or aryl (meth)acrylates (for example C.sub.4-30 -alkyl (meth)acrylate, cyclohexyl (meth)acrylate, benzyl (meth)acrylate, phenylethyl (meth)acrylate); heterocyclic (meth)acrylates (for example morpholinoethyl (meth)acrylate, N-(2-methacryloyloxyethyl)ethylene-urea) or hydroxyesters (for example 2-hydroxyethyl (meth)acrylate, hydroxypropyl (meth)acrylate) or alkyl polyethylene glycol(200-2000) (meth)acrylates (for example methoxypolyethylene glycol-750 methacrylate) may be used. The polyampholytes used may be water-soluble polymers based on (meth)acrylic acid which have dispersing or pigment-stabilizing properties and which are also intended to prevent diffusion into the surface of paper by interacting with the carbon black pigments. The intermeshing polymers used may be graft polymers with emulsifying properties which are obtained by copolymerizing hydrophobic, terminally functionalized macromonomers with hydrophilic monomers (EP 0 728 780 B1). Macromonomers with (meth)acryloyl terminal groups are prepared, for example, from C.sub.8 -C.sub.30 -alkyl methacrylates, cyclohexyl methacrylate or benzyl methacrylate and are then copolymerized with hydrophilic (meth)acrylates (for example (meth)acrylic acid, (meth)acrylamide, 2-hydroxyethyl (meth)acrylate, hydroxypropyl (meth)acrylate, dimethylaminoethyl (meth)acrylate and dimethylaminopropyl (meth)acrylamide and its quaternary ammonium compounds). Block copolymers with the same monomer composition are equally suitable for use here.

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L14: Entry 2 of 18

File: USPT

Mar 25, 2003

DOCUMENT-IDENTIFIER: US 6537532 B1

TITLE: Silicone grafted thermoplastic elastomeric copolymers and hair and skin care compositions containing the same

Detailed Description Text (8):Synthesis of Acrylate-Capped Poly(2-ethyl-2-oxazoline) MacromonomerDetailed Description Text (15):Synthesis of Acrylate-Capped Poly(ethylene glycol)methyl Ether MacromonomerDetailed Description Text (17):

The above procedure is varied using other poly(ethylene glycol)alkyl ethers (e.g. ethyl, propyl, 2-ethylhexyl, decyl, dodecyl, cetyl, stearyl, lauryl, and myristyl wherein the polymer has an average molecular weight varying from about 1000 to about 200,000) to obtain the analogous acrylate-capped macromonomers. Additionally, the methacrylate and ethacrylate endcapped macromonomers are prepared by replacing the acryloyl chloride with an equivalent molar amount of methacryloyl chloride and ethacryloyl chloride, respectively.

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L14: Entry 3 of 18

File: USPT

Oct 1, 2002

DOCUMENT-IDENTIFIER: US 6458906 B1

**** See image for Certificate of Correction ****

TITLE: Thermoplastic elastomeric copolymers and hair and skin care compositions containing the same

Detailed Description Text (9):Synthesis of Acrylate-Capped Poly(2-ethyl-2-oxazoline) Alcohol MacromonomerDetailed Description Text (16):Synthesis of Acrylate-Capped Poly(ethylene glycol)methyl Ether MacromonomerDetailed Description Text (18):

The above procedure is varied using other poly(ethylene glycol)alkyl ethers (e.g. methyl, ethyl, 2-ethylhexyl, decyl, dodecyl, cetyl, stearyl, lauryl, and myristyl wherein the polymer has an average molecular weight varying from about 1000 to about 200,000) to obtain the analogous acrylate-capped macromonomers. Additionally, the methacrylate and ethacrylate endcapped macromonomers are prepared by replacing the acryloyl chloride with an equivalent molar amount of methacryloyl chloride and ethacryloyl chloride, respectively.

Detailed Description Text (21):

To a solution of 16.0 g (0.1248 mol) of n-butyl acrylate, and 4 g of acrylate capped poly(2-ethyl-2-oxazoline) macromonomer (from Example II) in 100 mL of acetone is added 0.03 g (0.00018 mol) of azoisobutyronitrile (AIBN) Initiator. The resulting solution is refluxed slowly for about 20 hours. The reaction is then quenched by the addition of about 5 mL of methanol. The solution is then poured into a teflon pan and the acetone is evaporated at room temperature under a fume hood. The resulting polymer film is redissolved in ethanol, filtered, and the ethanol is then evaporated to yield about 18.4 g of the thermoplastic elastomeric copolymer.

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L14: Entry 4 of 18

File: USPT

Jan 30, 2001

DOCUMENT-IDENTIFIER: US RE37033 E

TITLE: Pigment-dispersed color-filter composition comprising an alkali-soluble block copolymer as a binder

Brief Summary Text (25):

The block having no acid group is formed of a polymer or copolymer composed from one of, or a plurality of, the above monomers such as aromatic vinyl compounds, ethylenically unsaturated alkyl carboxylic acid esters, vinyl carboxylic acid esters, vinyl cyanides and aliphatic conjugated dienes; ethylenically unsaturated carboxylic acid aminoalkyl esters such as aminoethyl acrylate; unsaturated aliphatic glycidyl esters such as glycidyl (meth)acrylate; macromonomers having a terminal (meth)acryloyl group such as polystyrene having a terminal (meth)acryloyl group; polymethyl (meth)acrylate having a terminal (meth)acryloyl group, polybutyl (meth)acrylate having a terminal (meth)acryloyl group and polysilicone having a terminal (meth)acryloyl group.

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L14: Entry 5 of 18

File: USPT

Nov 9, 1999

DOCUMENT-IDENTIFIER: US 5981113 A

TITLE: Curable ink composition and imaged retroreflective article therefrom

Brief Summary Text (20):

The polymerizable end group of the macromonomer is typically an aliphatic, ethylenically unsaturated group that is capable of reaction with one or more of the reactive acrylate monomers used to prepare the inks. This reactive functionality allows the macromonomer to be crosslinked directly into certain film substrates by free radical polymerization initiated by exposure to ultraviolet radiation. Examples of useful monomers for providing ethylenically unsaturated end groups (such as (meth)acrylate end groups) for the macromonomer include ethylenically unsaturated carboxylic acids, such as acrylic and methacrylic acid.

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L14: Entry 9 of 18

File: USPT

Jan 5, 1999

DOCUMENT-IDENTIFIER: US 5856611 A

TITLE: Zirconium catalyzed transesterification process for preparing synthetic wax monomers

Brief Summary Text (4):

Japanese Patent Application J 6-329720 discloses polyethylene macromonomers with a (meth)acryloyl terminal group and a method for preparation of these monomers. According to the disclosed method, a polyethylene derivative is reacted with specific carbonyl compounds, or is oxidized with oxygen to produce polyethylene alkoxide, and subsequently reacted with (meth)acrylic acid halide to yield the desired product.

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L14: Entry 12 of 18

File: USPT

Feb 21, 1995

DOCUMENT-IDENTIFIER: US 5391628 A

**** See image for Certificate of Correction ****

TITLE: Functionalized multiblock macromonomers and process for their production

Other Reference Publication (4):

Varshney, Sunil K., et al., "Anionic Polymerization of Acrylic Monomers (VII) Synthesis and Characterization of (Meth)acrylic End-functionalized Polymers": Macromonomers and Telechelics, Laboratory of Macromolecular Chemistry and Organic Catalysis, University of Liege (BELGIUM).

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L14: Entry 13 of 18

File: USPT

Nov 29, 1994

DOCUMENT-IDENTIFIER: US 5368976 A

**** See image for Certificate of Correction ****

TITLE: Pigment-dispersed color-filter composition comprising an alkali-soluble block copolymer as a binder

Brief Summary Text (25):

The block having no acid group is formed of a polymer or copolymer composed from one of, or a plurality of, the above monomers such as aromatic vinyl compounds, ethylenically unsaturated alkyl carboxylic acid esters, vinyl carboxylic acid esters, vinyl cyanides and aliphatic conjugated dienes; ethylenically unsaturated carboxylic acid aminoalkyl esters such as aminoethyl acrylate; unsaturated aliphatic glycidyl esters such as glycidyl (meth)acrylate; macromonomers having a terminal (meth)acryloyl group such as polystyrene having a terminal (meth)acryloyl group; polymethyl (meth)acrylate having a terminal (meth)acryloyl group, polybutyl (meth)acrylate having a terminal (meth)acryloyl group and polysilicone having a terminal (meth)acryloyl group.

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L14: Entry 15 of 18

File: EPAB

Aug 28, 1996

DOCUMENT-IDENTIFIER: EP 728780 A2

TITLE: Graftpolymers with emulgator properties

Abstract Text (1):

CHG DATE=19990617 STATUS=O> Graft polymers with emulsifier properties are prepd. by co-polymerising (a) a macromonomer, MM, formed of repeating units of 8-30C alkyl methacrylate units with a (meth)acryloyl terminal gp. with (b) a hydrophilic radically polymerisable acrylic cpd., HAM, in (c) a solvent which is ≥ 20 wt.% sol. in water at 20 degrees C..

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L14: Entry 16 of 18

File: DWPI

Aug 28, 1996

DERWENT-ACC-NO: 1996-386246

DERWENT-WEEK: 199949

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TITLE: Graft polymer - obtd. by polymerising alkyl methacrylate macromonomer with terminal (meth)acryloyl gp. with hydrophilic acrylic cpd., in water-miscible solvent, giving emulsifier properties

Basic Abstract Text (1):

Graft polymers with emulsifier properties are prepd. by co-polymerising (a) a macromonomer, MM, formed of repeating units of 8-30C alkyl methacrylate units with a (meth)acryloyl terminal gp. with (b) a hydrophilic radically polymerisable acrylic cpd., HAM, in (c) a solvent which is 20 wt.% sol. in water at 20deg.C..

Equivalent Abstract Text (1):

Graft polymers with emulsifier properties are prepd. by co-polymerising (a) a macromonomer, MM, formed of repeating units of 8-30C alkyl methacrylate units with a (meth)acryloyl terminal gp. with (b) a hydrophilic radically polymerisable acrylic cpd., HAM, in (c) a solvent which is at least 20 wt.% sol. in water at 20 deg. C..

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L14: Entry 17 of 18

File: DWPI

Dec 8, 1988

DERWENT-ACC-NO: 1989-027856

DERWENT-WEEK: 198904

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TITLE: Pressure sensitive adhesive compsns. with excellent melt coatability - contains (meth)acrylate! graft copolymer and organo-phosphorus antioxidant

Basic Abstract Text (1):

The compsns. comprises (A) a graft copolymer (e.g. molecular wt. = 1.5×10^5) which is obtd. by copolymerising a macromonomer (e.g. molecular wt. = 5,000-50,000) which is obtd. by anionic polymerisation and has (meth)acrylate terminal gps., with (meth)acrylate(s) and (B) an organic phosphorus cpd. antioxidant of e.g. 0.01-5 (0.1-2.0) wt.%.

WEST**End of Result Set**☐

L14: Entry 18 of 18

File: DWPI

Oct 10, 1988

DERWENT-ACC-NO: 1988-336121

DERWENT-WEEK: 198847

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TITLE: (Meth)acrylate-terminated macro-monomers and their graft copolymers - obtd. by anionic polymerising conjugated diene(s) and/or vinyl aromatic hydrocarbon(s), reacting with alkylene oxide and capping

Basic Abstract Text (1):

Macromonomers (I) having a (meth)acrylate terminal functional gp. are useful for prepn. of pure graft polymers with uniform mol. wt. side chains. (I) are prepd. by anionic polymerisation of conjugated diene(s) and/or vinyl aromatic hydrocarbon(s) with an alkali metal initiator, e.g. Li metal or BuLi, to form an alkali metal-terminated living (co)polymer. This is then reacted with an alkylene oxide, e.g. ethylene oxide or propylene oxide, to form the corresp. alkoxide anion, which is then capped with a (meth)acryloyl halide. (Meth)acrylate-terminated random copolymers or block copolymers may be prepd.